Thanawat Lodkaew

Research Engineer

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skydddoogg

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Research Interests

Machine learning for real-world applications, Lifelong machine learning, Computer vision, Speech analytics, Transfer learning, Deep learning, Loss function

Education

B.Sc. in Information Technology, King Mongkut's Institute of Technology Ladkrabang — Aug 2016 - Jun 2020
Supervisor: Kitsuchart Pasupa — GPAX: 3.76/4.00 (First class honors)

Job Experiences

Research Engineer (Full-time), KASIKORN Business - Technology Group (*Thailand*) — Oct 2020 – Present
Supervisor: Theerat Sakdejayont

- Research and develop speech analysis frameworks.

Co-Researcher (Part-time), National Science and Technology Development Agency (*Thailand*) — May 2020 – Sep 2020
Supervisor: Winai Chonnaparamutt

- Analyzed how machine learning and computer vision techniques can be applied to robotics.

Internship Experiences

Undergraduate Researcher, Data Science and Machine Learning Research Lab (*Thailand*) — Jul 2017 – May 2020
Supervisor: Kitsuchart Pasupa

- Researched and invented a new loss function for learning imbalanced data.
- Researched and developed a web platform called Fashion Finder that can search for online stores by providing a photo of the product.
- Researched and invented a computer-vision-based approach for heat detection in cows.
- **Result:** 3 conference papers (ICITEE 2018, ICONIP 2019, ICONIP 2020) and 1 patent.

Research Intern, Vidyasirimedhi Institute of Science and Technology (*Thailand*) — May 2019 – Jul 2019
Supervisor: Supasorn Suwajanakorn

- Research topic: Removing furniture in a room image by utilizing an image inpainting technique.
- Contributed to a project related to human-in-the-loop machine learning.
- **Result:** A journal paper published in IEEE Transactions on Industrial Informatics.

Student Intern, National Institute of Technology, Kurume College (*Japan*) — Jun 2018 – Jul 2018
Supervisor: Yoshimitsu Kuroki

- Research topic: an improvement of the Saak transform using convex optimization on sparse representation.
- **Result:** Experience in living in Japan and working with Japanese colleagues.

Skills

Programming languages Python, Java, MATLAB, C
Tools & Frameworks Tensorflow, PyTorch, Google Cloud Platform, Git, Flask, HUAWEI Cloud

Honors and Awards

2020 **First Class Honors**: Bechelor of Science, King Mongkut's Institute of Technology Ladkrabang.
2020 **Honorable Mention Award**: National Software Contest on Artificial Intelligence Application.
2019 **Third Place**: IST – FR: Gateway to Informatics Research at EECi.
2018 **JASSO scholarship for short-term study in Japan**: National Institute of Technology, Kurume College (*Japan*).
2018 **Third Place**: National Software Contest on Artificial Intelligence Application.
2017 **Finalist**: International ICT Innovative Services Contest (*Taiwan*).
2017 **Special Prize Award**: NAPROCK International Programming Contest (*Japan*).
2017 **Finalist**: TechJam Competition on Data Science Squad.
2017 **Honorable Mention Award**: MUICT DataHack.

Publications

Conference Proceedings

1. **Lodkaew**, **Thanawat** and Kitsuchart Pasupa (2020). Hybrid Loss for Improving Classification Performance with Unbalanced Data. In: *International Conference on Neural Information Processing (ICONIP)*. Springer, pp.807–814.
2. Pasupa, Kitsuchart and **Thanawat Lodkaew** (2019). A new approach to automatic heat detection of cattle in video. In: *International Conference on Neural Information Processing (ICONIP)*. Springer, pp.330–337.
3. **Lodkaew**, **Thanawat**, Weeruhputt Supsohmboon, Kitsuchart Pasupa, and Chu Kiong Loo (2018). Fashion Finder: A System for Locating Online Stores on Instagram from Product Images. In: *International Conference on Information Technology and Electrical Engineering (ICITEE)*. IEEE, pp.500–505.

Journal Article

1. Sawadwuthikul, Guntitat, Tanyatep Tothong, **Thanawat Lodkaew**, Puchong Soisudarat, Sarana Nutanong, Poramate Manoonpong, and Nat Dilokthanakul (2021). Visual Goal Human-Robot Communication Framework with Few-Shot Learning: a Case Study in Robot Waiter System. *IEEE Transactions on Industrial Informatics*.

Petty Patent

1. Pasupa, Kitsuchart and **Thanawat Lodkaew** (2021). *Automatic Heat Detection of Cow in Video Footage*. T.H. Patent 17621.

Languages

Thai	Native
English	High-Intermediate